

## CLAIMS

1. A communications cable comprising a plurality of cores through which communications signals can be transmitted, each core comprising a metallic conductor surrounded by a close-fitting sleeve of insulating material which is substantially free of halogenated polymers, the insulating material having a permittivity of no greater than 3, and comprising an outer layer of a non-foamed polymer surrounding a layer of foamed polymer, the outer layer containing a fire retardant which is substantially halogen free, the layer of foamed polymer optionally surrounding a layer of non-foamed polymer, and wherein the region of the insulating material immediately adjacent the metallic conductor contains no fire retardant metal hydroxide and/or carbonate filler; an outer cable sheath disposed radially outwardly of and surrounding the cores, the outer cable sheath constituting a fire protection layer and being formed from an extrudable polymer containing a fire retardant material such as a metal hydroxide and/or carbonate filler; and optionally a metallic or metallised screening layer disposed between the cores and the outer cable sheath; but provided that no additional fire protection layer is disposed between the cores and the outer cable sheath.
2. A communications cable according to claim 1 which is non-coaxial.
3. A communications cable according to claim 1 or claim 2 wherein the said outer layer of non-foamed polymer is formed from an olefin polymer, copolymer or a polyolefin alloy.
4. A communications cable according to any one of the preceding claims wherein the maximum flame propagation distance of the cable, as measured by American National Standards Institute test ANSI UL 910, is less than 152cm beyond an initial test flame.
5. A communications cable according to any one of the preceding claims wherein the peak optical density of the smoke produced by the cable, as measured by American National

Standards Institute test ANSI UL 910, is less than 0.5 and the average optical density of the smoke is 0.15 or less.

- 5 6. A communications cable according to any one of the preceding claims which is unscreened.
7. A communications cable according to any one of claims 1 to 5 which is screened.
- 10 8. A communications cable according to any one of the preceding claims wherein the insulating material surrounding each metallic conductor comprises a radially inner foam layer and a radially outer non-foamed layer.
- 15 9. A communications cable according to any one of claims 1 to 7 wherein the insulating material comprises a radially inner non-foamed layer, an intermediate foamed layer, and a radially outer non-foamed layer.
10. A communications cable according to any one of the preceding claims wherein the outer non-foamed layer contains a metal hydroxide and/or metal carbonate fire retardant.
- 20 11. A communications cable according to any one of the preceding claims wherein the insulating material of the core is a polyolefin such as polyethylene or polypropylene.
- 25 12. A communications cable according to any one of the preceding claims wherein the cores are arranged in the form of one or more twisted pairs or quads.
13. A communications cable according to claim 12 wherein the cores are arranged in the form of a plurality of twisted pairs or quads.
14. A communications cable according to claim 13 wherein there are present from one to

thirty twisted pairs or quads.

15. A communications cable according to claim 14 wherein there are present four twisted pairs.
- 5 16. A communications cable according to any one of the preceding claims wherein a screening layer is interposed between the cores and the outer cable sheath.
- 10 17. A communications cable according to any one of claims 1 to 15 wherein each core, twin or quad is individually wrapped in a screening layer.
18. A communications cable according to claim 17 wherein the plurality of individually wrapped cores, twins or quads form a bundle and the bundle is surrounded by a second metallic or metallised screening layer.
- 15 19. A communications cable according to any one of claims 16 to 18 wherein the screening layer is formed from a metallised polymer film.
- 20 20. A communications cable according to claim 19 wherein the polymer film is coated with aluminium.
21. A communications cable according to claim 19 or claim 20 wherein the polymer film is formed from a polyester.
- 25 22. A communications cable according to any one of claims 16 to 21 wherein a drain wire is interposed between the core or cores and the outer cable sheath so as to be in contact with the screening layer.
23. A communications cable according to any one of claims 1 to 15 wherein individual cores,

or individual groups of cores such as twisted pairs or quads, are separated by an axially extending separator.

- 5      24.    A communications cable according to claim 23 wherein the separator is formed from a polymeric material.
25.    A communications cable according to claim 23 or claim 24 wherein the separator is surrounded by a metallised screening layer.
- 10    26.    A communications cable according to any one of claims 23 to 25 wherein the separator is metallised.
27.    A communications cable according to claim 26 wherein the separator is surrounded by a metallised screening layer which is in contact with the separator such that each twisted
- 15    pair or quad is enclosed by a metallised screen defined by the screening layer and the metallised separator.